REMARKS

Reconsideration and allowance of the above referenced application is respectfully requested.

Claims 1-14 are currently pending in the present application. New Claim 15 has been added by this amendment. Claim 10 has been withdrawn from further consideration. Claim 1 has been amended to more clearly define the present invention as including at least one adsorbent material wherein the adsorbent material is a natural cellulose-based material; that is a material that has not been modified to change its natural characteristics. Support for this amendment is provided in the application and claims as originally filed. The Examiner's attention is directed to the specification at page 11, lines 4-6. Newly added Claim 15 is specifically supported by the specification at page 7, line 23 to page 8, line 3; page 10, lines 2-4, and page 11, lines 4-6. Additional support for new Claim 15 is found in original Claims 1, 2, 5, and 9.

Rejections under 35 U.S.C. §103

Claims 1, 2, 4, 6-9, 11, 13 and 14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Haase et al. (U.S. Patent 4,178,438) in view of Wieser-Linhart (U.S. Patent No. 5,762,662).

Claim 3 is rejected under 35 U.S.C. §103(a) as being unpatentable over Haase et al. (U.S. Patent 4,178,438) in view of Wieser-Linhart (U.S. Patent No. 5,762,662) as applied above, and further in view of Sato et al. (U.S. Patent No. 4,206,080).

Claims 5 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Haase et al. (U.S. Patent 4,178,438) in view of Wieser-Linhart (U.S. Patent No. 5,762,662) as applied above, and further in view of Hondroulis et al. (U.S. Patent No. 6,027,652).

Each of the above recited rejections of claims relies on the primary reference of Haase et al. and a common secondary reference, Wieser-Linhart. For this reason, the Applicants arguments regarding the three rejections are jointly presented below. Applicants respectfully assert that by the above amendment to the claims, the above recited rejections are overcome.

The present invention, as now claimed, is drawn to a method for treating a contaminated fluid that contains at least one soluble contaminant, the method including packing a column with adsorbent material that is a natural cellulose-based material; that is adsorbent material that has not been modified to change its natural reactive characteristics and does not include any non-cellulose-based adsorbents such as, for example, activated carbon. The adsorbent material is used until spent, it is then removed from the column and composted to reduce the volume of spent adsorbent material and to concentrate the adsorbed contaminant.

In contrast, Haase et al. is an invention drawn only to a cationically modified cellulose material. The majority of the disclosure of Haase et al. and all of the claims of the patent are directed to the cationically modified material. As pointed out in the Official Action, Haase et al. does assert in the specification that up to 100% of the dissolved impurities can be removed from the effluents; however, Haase et al. does not teach or suggest that a natural, unmodified cellulose material can adsorb soluble contaminants from a contaminated fluid. Further, Haase et al. teaches the inclusion of non-cellulose-based adsorbents such as activated carbon in substantial amounts, preferably between 10% to 70% by weight of the of the total modified cellulose material (See Col.13, ln's 14-22). Thus, Haase et al. suggests but does not claim the successful adsorption of dissolved contaminants from effluents using a cationically modified cellulose in combination with a known non-cellulose adsorbent, such as activated carbon. This is not the Applicants invention, as disclosed in the present specification and as now claimed. Haase et al.

fails to teach or suggest the possibility of adsorbing soluble contaminants from a contaminated fluid using only unmodified, natural cellulose adsorbents. Haase et al., therefore fails as a primary reference over the Applicants method as now claimed.

The Official Action briefly refers to Kobayashi et al. (U.S. Patent No. 4,061,567) and Wyatt et al. (U.S. Patent No. 5,597,728) as similar techniques for removing organic contaminants from water. Wyatt et al. is not directed to an adsorption material or method but is direct only to a method for enzymatically separating contaminants from organic fibers. The only references in Wyatt et al. regarding the inclusion of the contaminants with the organic fibers involves the experimental tests described at Col. 12, ln's 26-50 in which the organic fiber materials are first exposed to an oil water suspension until the organic fibers are saturated with oil. This preparatory protocol employing a suspension of an oil layer over water does not teach or suggest that cellulose materials are capable of adsorbing soluble contaminants from a contaminated liquid. Similarly, Kobayashi et al. is involved only with "oils floating or suspended in water." (See Abstract and Col. 2, ln's 5-9) Both references are directed only to oil/water suspensions; not to the removal of soluble contaminants from a contaminated liquid. Wyatt et al. and Kobayashi et al. are therefore not relevant prior art to the invention as now claimed.

The secondary reference cited in the Official Action, Wieser-Linhart, fails to make up for the deficiencies of Haase et al. Wieser-Linhart, as previously argued by Applicants, is directed to a process that is not at all similar to that claimed by the Applicants. Wieser-Linhart is only directed to binding emulsified resin and tar substances, which are suspended in water, to wood dust that is circulated along with the oil/water emulsion. Wieser-Linhart does not disclose the removal of soluble contaminants from a contaminated liquid by use of an adsorbent packed column. The Wieser-Linhart reference is only cited in the present rejection because of an

isolated, singular statement that the residual product can be disposed of by burning or composting. Wieser-Linhart fails to teach a remotely similar process to that of the Applicants claimed method and further, fails to teach the required elements of the Applicants invention of "...removing said spent cellulose-based material; and composting said spent cellulose-based material to reduce the volume of spent cellulose-based material and degrade and concentrate said at least one adsorbed contaminant." Weiser-Linhart's simplistic statement regarding two possible options (burning or composting) for disposing of wood dusts that was used to remove oil from an oil/water emulsion is hardly suggestive of the Applicants' claimed method. Unlike Weiser-Linhart, Applicants' invention first requires that an adsorbent cellulose material be packed into a column through which a contaminated liquid containing soluble contaminants is passed, allowing the adsorbent material to remove the soluble contaminants until saturated, then removing the spent adsorbent material and composting the same for the purpose of reducing the volume of the spent adsorbent material and degrading and concentrating the removed soluble contaminant. There is no teaching or suggestion of the combination of steps in the Applicants claimed invention that can be drawn from extracting a single word, "composting" from a reference that teaches a method unrelated to the method of the claimed invention. Weiser-Linhart is no more applicable to the Applicant's claimed invention that would be any gardening manual that suggested simple composting.

With regard to the Sato et al. reference, it is cited in the rejection of Claim 3 solely for the purpose of teaching that water may be passed through a column in either an upward or downward direction. Sato et al. does not make up for the deficiencies of the above discussed primary and secondary references.

With regard to the Hondroulis et al. reference, it is cited in the rejection of Claims 5 and

12 solely for the purpose of teaching that kenaf can be used as a sorbent for oil spills and particularly teaches spreading the sorbent materials across the top of the oil layer in a oil/water suspension. Hondroulis et al. does not teach or suggest using kenaf or any cellulose-based material to remove soluble contaminants from a contaminated liquid. Hondroulis et al. is therefore not relevant to the Applicants Claims 5, 12, and now new Claim 15, which are directed to using kenaf as an adsorbent for removal of soluble contaminants from a contaminated liquid.

In view of the above amendments and accompanying remarks, Applicants respectfully assert that the above recited rejection of Claims 1-9 and 11-14 are rendered moot. Applicants further assert that new Claim 15 is, for the same reasons, patentable over the earlier cited prior art. Accordingly, it is respectfully requested that the present rejection be withdrawn and Claims 1-9 and 11-15 be determined to be allowable.

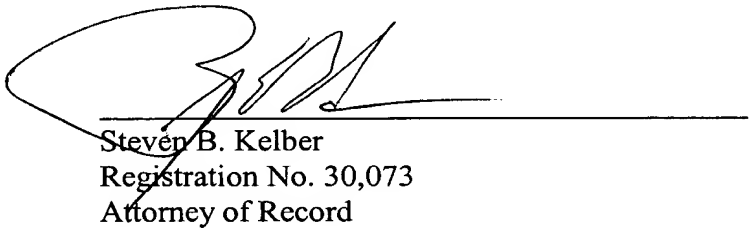
CONCLUSION

Applicants respectfully assert that this application is now in condition for allowance and therefore requests favorable consideration.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

PIPER RUDNICK LLP



Steven B. Kelber
Registration No. 30,073
Attorney of Record

Perry E. Van Over
Registration No. 42,197

1200 Nineteenth Street, N.W.
Washington, D.C. 20036-2412
Telephone No. (202) 861-3900
Facsimile No. (202) 223-2085